

Evaluation of serum miR-155 and TNF- α expression among Rheumatoid Arthritis patients(RA) with positive RF and Anti-CCP

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ABSTRACT

Background: MicroRNAs play a key role in the regulation of immune response as well as in rheumatoid arthritis (RA) pathology as a potential biomarker for disease control. We hypothesis some roles as a marker for serum miR-155 in the prognosis and the diagnosis of RA and its correlation with including rheumatoid factor (RF), anti-cyclic citrullinated peptide (anti-CCP) and tumour necrosis factor-alpha (TNF- α).

Methods: In our cross-sectional study, serum samples among participations were collected and miR-155 expression was measured by real-time polymerase chain reaction (PCR). TNF- α levels were detected by enzyme-linked immunosorbent assay among 40 patients with RA and 12 individuals as healthy controls. Data analysis was performed by Stata statistical software.

Results: MiR-155 expression was higher in RA patients compared to controls although there was no significance difference between the groups [mean 26.9 (4.4, 49.4) vs. 8.2 (0.8, 15.5), $p < 0.185$]. Based on ROC curve analysis, miR-155 had AUC = 0.456. Our results showed that miR-155 expression correlated with RF with p -value= 0.109, Anti-CCP with p -value= 0.119, also TNF- α with the correlation 0.1 and p -value=0.465. As a result, there was no correlation between TNF- α , RF and Anti-CCP with gene expression miR-155.

Conclusion: We concluded that miR-155 might not be a better diagnostic marker in serum of RA patients. And also, we founded that there was no significant correlation between TNF-a and miR-155 gene expressions.

Key Words: miR-155, TNF-a, Anti-CCP, RF